WR-ALC Technical Data Integrated Digital Environment

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Tech Data Integration Overview

- Technical Data Definition and Purpose
- Home Office Functions
- Tech Data Vision
- Configuration Control Data
- Technical Orders
- Engineering Drawings/Models
- Contractor Maintained Data
- Tech Data Portal

Tech Data Integration Definition and Purpose

- **Technical Data Definition**
  - **Data acquired, modified, and maintained in support of assigned weapon systems, including maintenance, flight, commodity and commercial manuals. Also includes contractor and AF engineering drawings, and engineering models.**
- **Tech Data Integration Purpose**
  - **Attain total digital technical data environment**
  - **Drive down sustainment costs**
  - **Meet customer technical data requirements**
    - **Current**
    - **Accurate**
    - **User-friendly**
    - **Acceptable price**

Technical Data
Home Office Functions

- **Chair Centralized Technical Order Management (CTOM) group to establish WR-ALC TO Policy, gather user requirements, address TO problems, liaison with higher HQ on TO matters.**

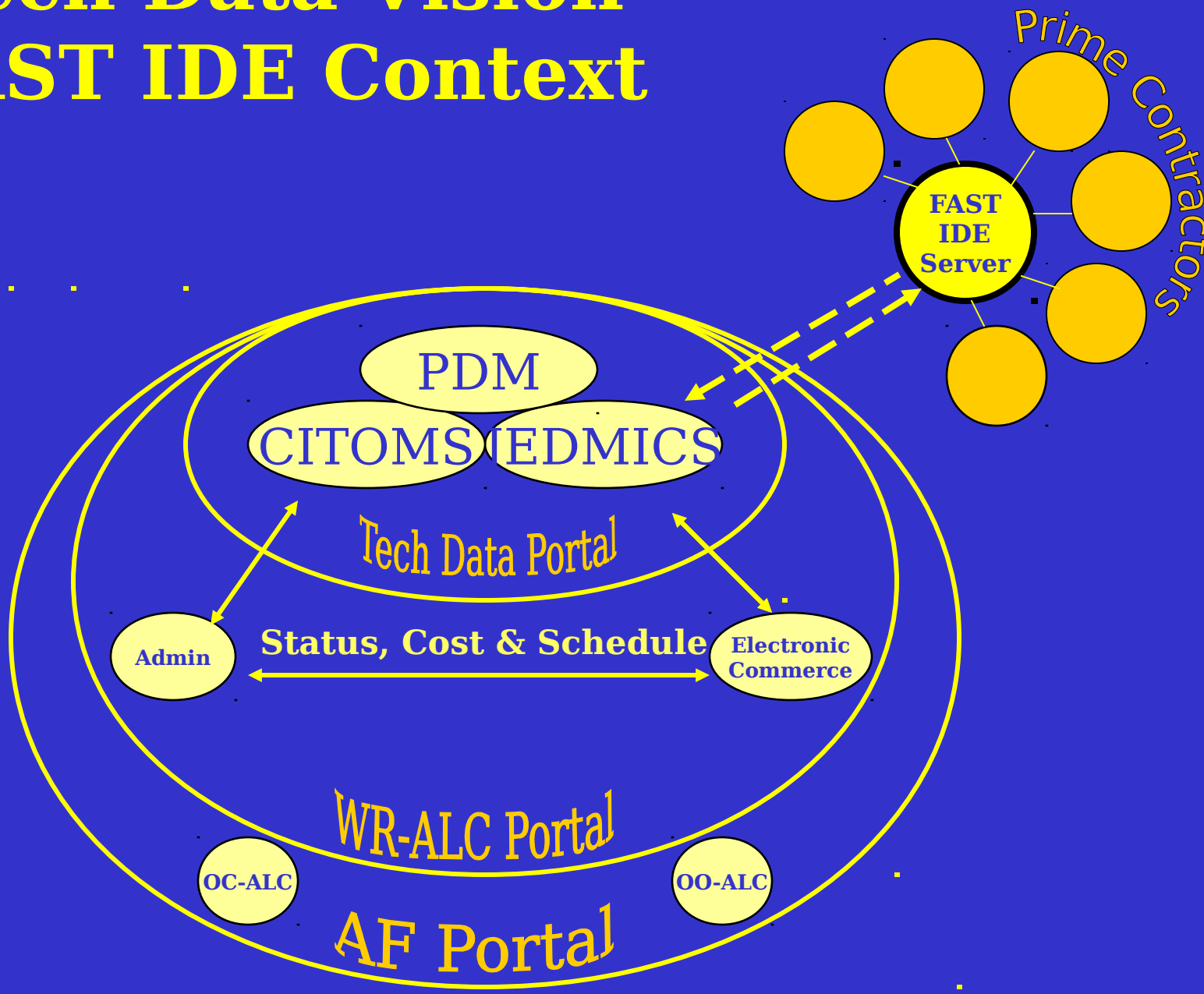
- **Lead in establishing engineering data acquisition, storage, distribution, policy.**

- **Provide and maintain technical data infrastructure based on user requirements coordinated through CTOM and other basewide policy groups.**

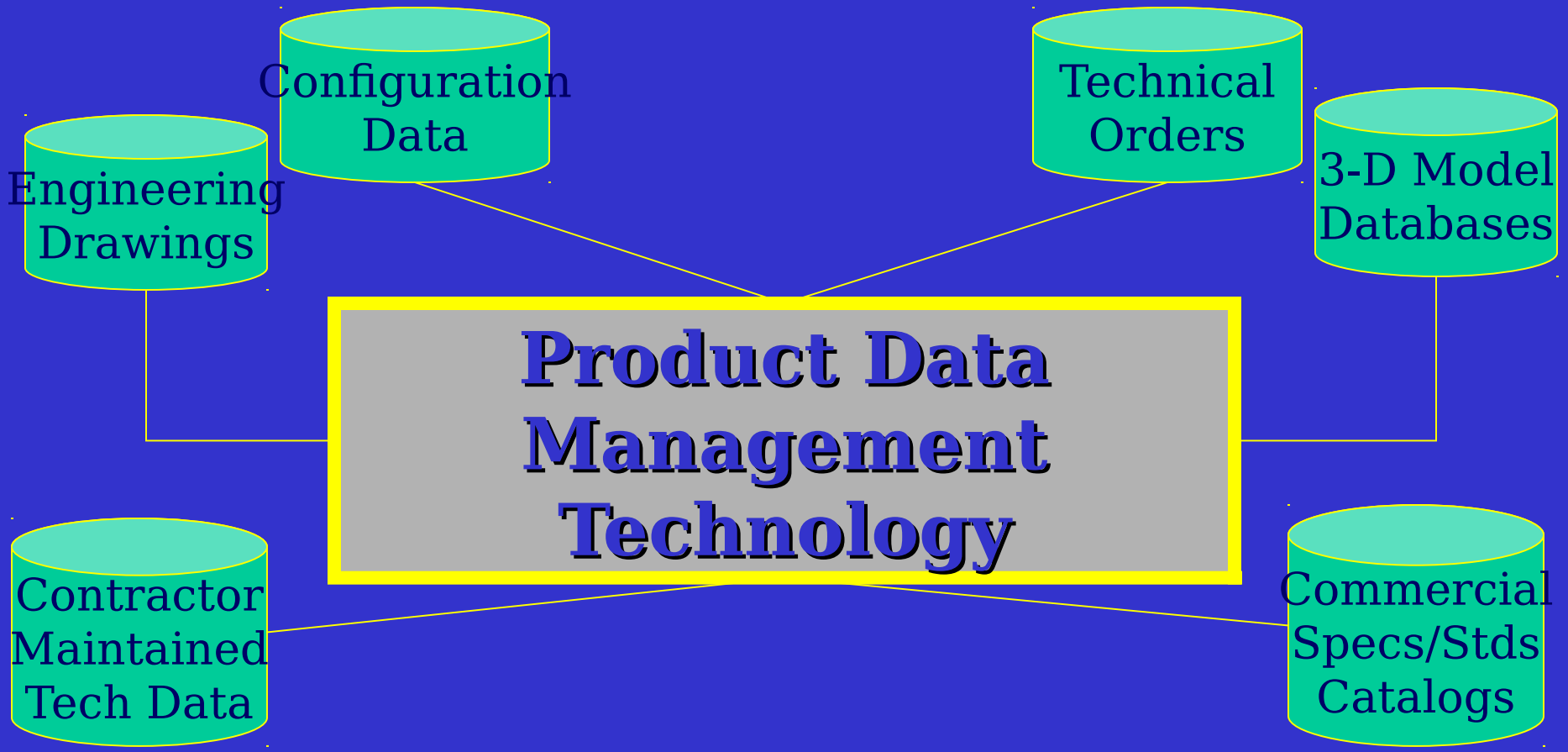
Tech Data Vision
FAST IDE Context

- PDM and portal technology core to IDE
- Single point of access for submittal and retrieval of technical data
- Real-time data exchange and access
- Online submittal, review, and acceptance of technical data packages

Tech Data Vision
FAST IDE Context



Tech Data Integration
Product Data Management System

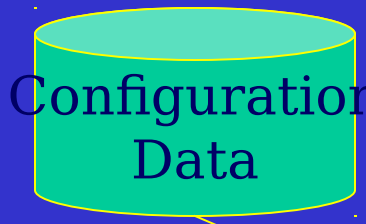


Tech Data Integration
Product Data Management System

- Web-accessible
- Electronic Document Management
  - Tech Orders
  - Historical Documents
  - First Article Files
  - Engineering Change Orders
- Engineering Drawings/Models (in work)
  - CAD/CAM data repository
  - JEDMICS linking capabilities
- Product Data Management
  - Parts Configuration Data Management
- Workflow Management (planned)
  - ECP Process
  - DLA 339 Process

Tech Data Integration Configuration Control Data

- Load part indenture data into PDM
- Parts indentures displayed in tree structure
- Process to clean-up problems in IPBs and other databases
- Process to create data load files for legacy data systems

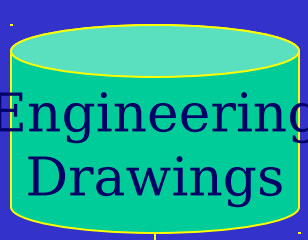


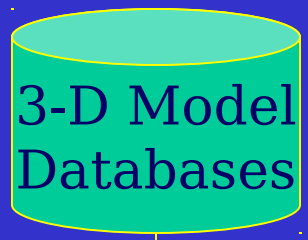
- Initial prototype:
  - Extracted 11,000 parts from GPS IPBs
  - Developed API interface
- Currently working:
  - Additional 4 million parts
  - Interfaces for additional legacy systems – WSSP, G005M

Product Data Management Technology

Tech Data Integration Engineering Drawings and 3-D Models

- Allows drawings stored in JEDMICS to be
  accessed through PDM
- Drawing metadata only loaded in PDM—images
  not replicated
- Audit trail tracks JEDMICS drawing retrieval
- Drawing metadata updates occur as drawings
  migrate to JEDMICS permanent storage
- CAD/CAM data resident within PDM
- Utilizes CITRIX server for view
- Basis for linking drawing data to parts, TOs, etc





Product Data Management Technology

Engineering Drawings and 3-D Models
Digital Delivery Requirements

- Defines content, format and media requirements
- Covers word processor documents, engineering dra
  mechanical engineering models, machine control da
  electrical/electronic design models and associated f
  printed board artwork master and drill NC data, an
  and firmware data
- Also covers requirements for indentured data lists
- Requires delivery of native and neutral formats
- Outlines metadata requirements for all data types
- Currently published as AF drawing #9579776, revis
- Revision F to be published by 31 December 2001

Tech Data Integration
Technical Orders

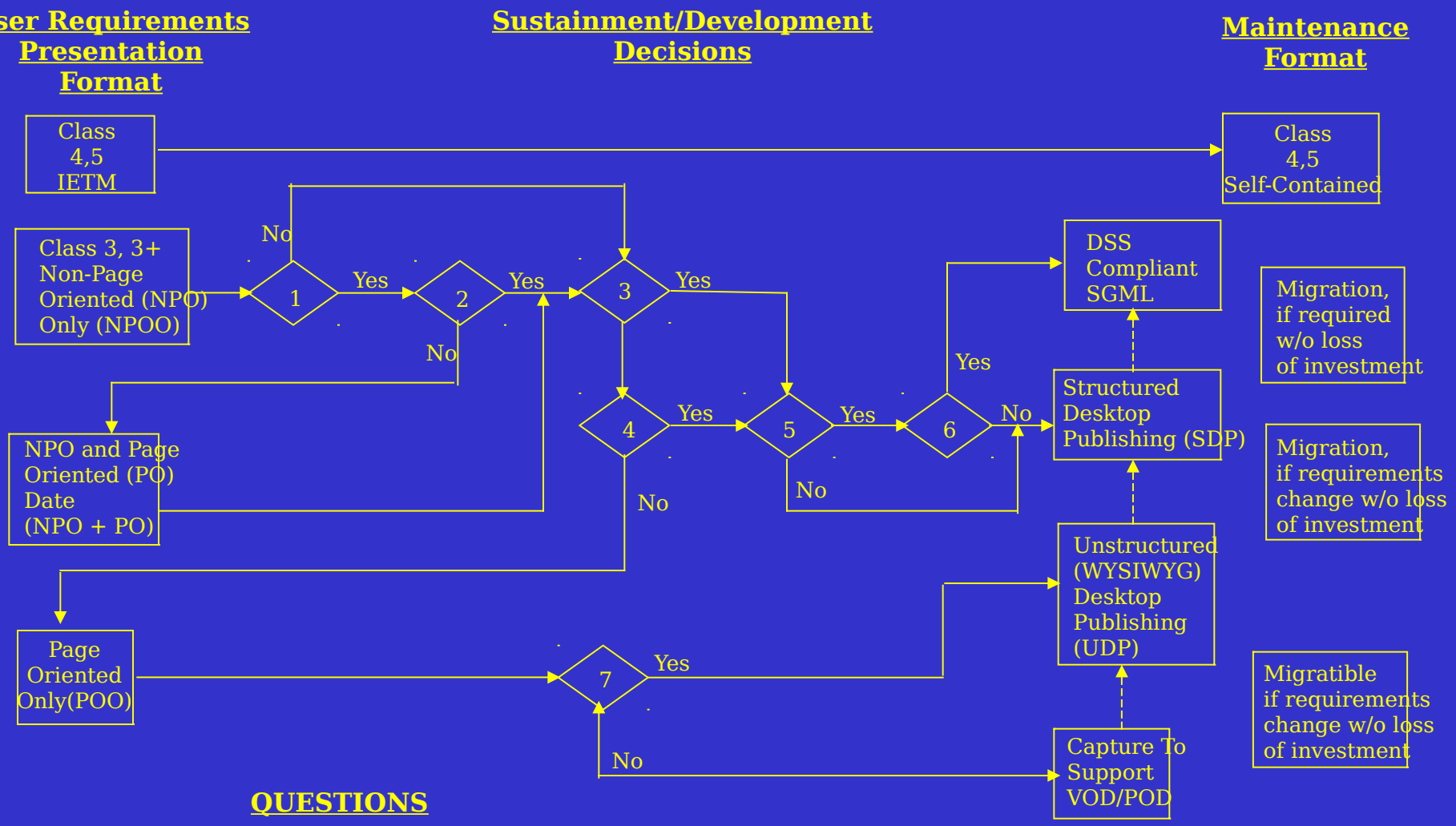
- **Central Technical Order Repository (CTOR)**
  - **Nearly 60,000 TOs in repository**
  - **Supports view- and print-on-demand processes**
  - **Converting all TOs to IPDF (image over text)**
  - **Access available worldwide via web**
  - **Access available for shop floor/maintenance personnel via RF technology**

Product Data Management Technology

Technical Order Digital Delivery Requirements

- Supplements AF Digital Data Strategy for TOs
- Tailors TMCR (TM 86-01) document to specifically
  WR-ALC capabilities and objectives
- Provides guidance on data authoring, print and vie
- Format delivery based on decision tree process
- Outlines metadata and delivery media requiremen
- Document available at www.robins.af.mil/

Decision Tree To Support The Acquisition, Conversion, and Sustainment Of Electronic Technical Orders



QUESTIONS

1. Do the existing TOs have features that prohibit their use as NPOO without redesign or content?
2. Is funding/schedule available to redesign content to enable use of NPOD?
3. Is a complete set of publishing components DSS(s), SDP templates, FOSI(s), screen FOSI(s), etc available to meet user requirements?
4. Can the necessary publishing components be in place to meet the document publishing schedule?
5. Is there a benefit from integrating document content to external systems to improve in content quality (e.g. parts/configuration management, parts obsolescence) or to improve the usability of the data (parts ordering/intelligent linking)?
6. In the integration to external systems planned/funded (or just a long term goal)?
7. Are there known or anticipated editorial requirements for these TO(s)?

Technical Orders CITOMS

- ALCs have developed a plan to utilize existing systems to develop a common solution to meet the needs of the ALC TO community and customers
- This capability will:
  - Augment core TO management features of JCALS
  - Integrate management, publishing and data warehouse and distribution environments
  - Support the AF TO CONOPS and architecture requirements
  - Support ALL customers (e.g. FMS, EPAF, etc.)

CITOMS

Functional Components

Leverage Existing USAF Capabilities

Manage and Acquire	Improve and Publish	Store and Distribute
CAFTOP	Authoring (DTP & SGML)	Central Repository
Change Management	Page-Oriented Composition	WEB Portal Worldwide Access
AFTO22 Submission/Tracking	Revision (Change Pkg Mgmt	Intelligent Data Links
AFMC252 Generation Automated	Looseleaf Publication)	to Multiple Tech Data Types
Acquisition & Modification	Non-Page Oriented Presentation	Programmatic POD Management
Support and Visibility	as XML Class 3 IETM	Part Indenture Data
Workload Visibility	SGML Content Management	Technical Data Config Mgmt
FMS Applicability	Sustainment Workflow Mgmt	Distribution
Multiple Change Pkgs per PCR	Support for AECMA Standards	View on Demand
10% Review Tracking		COTS printer Label Support
Workload & Performance Metrics		Form 5600 Form 310 /Label
		Paper, CD, On-line ALC, Wing, MOB Access

Tech Data Integration Contractor/Commercial Maintained Data

- **Integration of data sources accomplished via Tech**
  - **Commercial Logistics Data (Haystack)**
  - **Vendor Catalogs**
  - **Military and Commercial Specs and Standards**
  - ***C-17 Contract Data***

Tech Data Portal
Data Sources

Type of Data	Data Source
Air Force TOs	All TOs resident in WR-ALC CENTRA Repository
JEDMICS Drawings	Metadata listed JEDMICS Drawings stored in the WR-ALC JEDMICS repository
Parts Indenture Data	Part Indenture data entered into the WR-ALC CENTRA repository through CITOMS
Military Specifications & Standards	IHS Subscription Service
Commercial & DoD Adopted Standards	IHS Subscription Service
Government & DoD Logistics	IHS Haystack Subscription Service
Commercial Parts & Catalogs	IHS Subscription Service

Tech Data Portal
Hyperlinking of Data

- **Utilizes browser plug-in technology**
- **Hyperlinks displayed in TO view for XML, PDF Normal and PDF Raster**
- **Eliminates high cost of establishing hard data links across multiple repositories**
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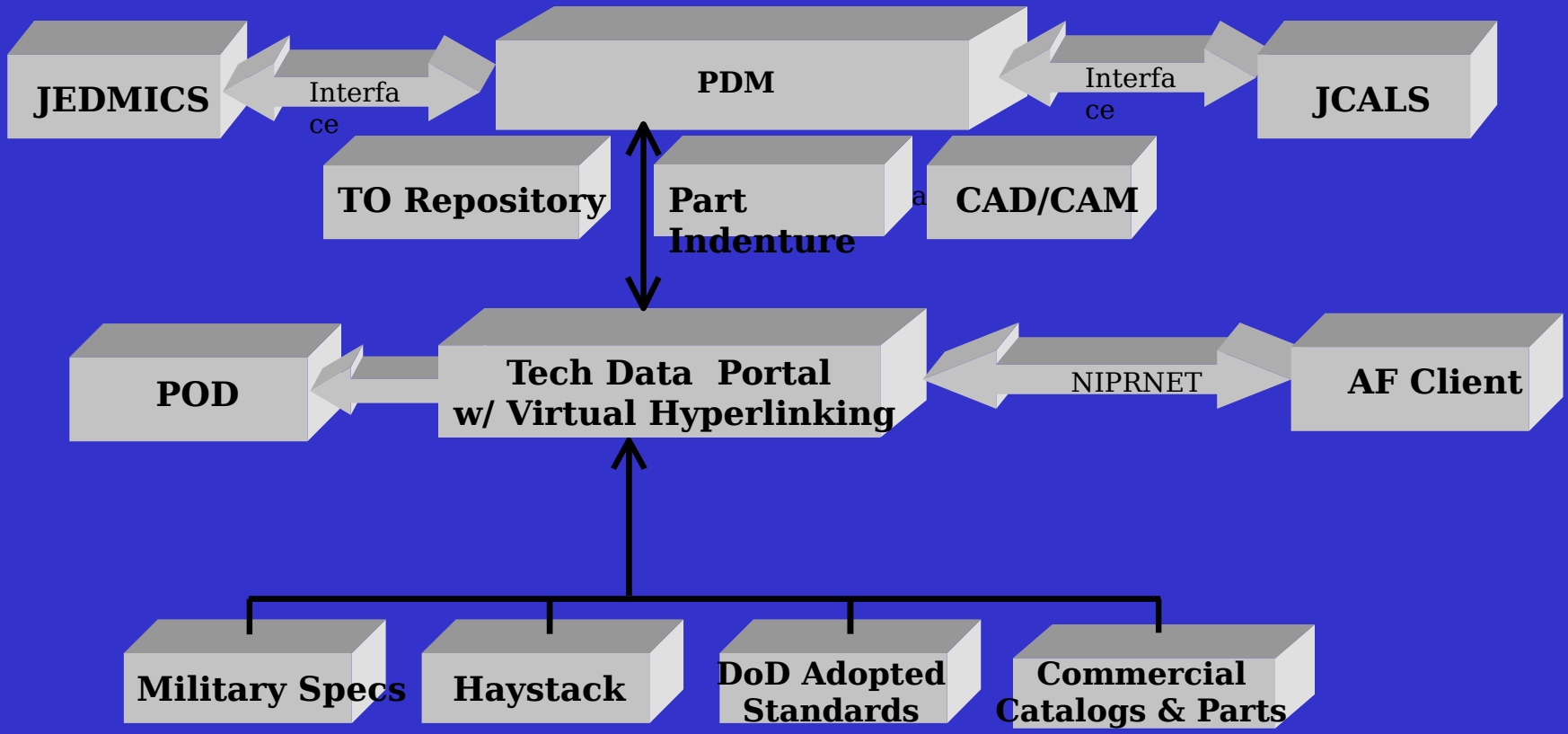
Tech Data Portal



WR-ALC Technical Data Integrated Digital Environment Points of Contact

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